## Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (previosuly presented) An isolated polypeptide comprising the amino acid sequence of SEQ ID NOs: 2 or 18, wherein at least one of the amino acids is in the D-isoform.

2. (previosuly presented) The polypeptide of claim 1, wherein said amino acid sequence is SEQ ID NO: 2 and said D-isoform amino acid is selected from the group consisting of [D-Ser-1]; [D-Cys-2]; [D-Ser-3]; [D-Leu-4]; [D-Pro-5]; [D-Gln-6]; and [D-Thr-7].

3. (previosuly presented) The polypeptide of claim 1, wherein all of said amino acids are in the D-isoform.

4. (previosuly presented) The polypeptide of claim 1, wherein said polypeptide modulates body mass.

5. (previosuly presented) The polypeptide of claim 1, wherein said polypeptide reduces food intake.

6. (previosuly presented) The polypeptide of claim 1, wherein said polypeptide modulates insulin release.

7. (previosuly presented) The polypeptide of claim 1, wherein said polypeptide does not interact directly with a leptin receptor.

8. (currently amended) The polypeptide of claim 1, wherein said polypeptide ~~does not interact~~ interacts with ~~the MCL-4~~ a MC4-receptor.

9. (previosuly presented) The polypeptide of claim 1, wherein said polypeptide is capable of penetrating the blood brain barrier.

10. (previosuly presented) The polypeptide of claim 1, wherein said D-substituted amino acid is [D-Leu-4].

11. (previosuly presented) The polypeptide of claim 1, wherein said D-substituted amino acid is [D-Pro-5].

12. (previosuly presented) The polypeptide of claim 1, wherein said polypeptide is cyclized.

13. (previosuly presented) The polypeptide of claim 1, wherein said amino acid sequence is SEQ ID NO: 18 and said D-isoform amino acid is selected from the group consisting of [D-Ser-1]; [D-Cys-2]; [D-His-3]; [D-Leu-4]; [D-Pro-5]; [D-Trp-6]; [D-Ala-7]; all [D]-OB3; and [D-Leu-4, D-Pro-5]-OB3.

14. (previosuly presented) A composition for modulating body mass, comprising a therapeutically effective amount of at least one polypeptide of claim 1, and a pharmaceutically acceptable carrier.

15. (previosuly presented) The composition of claim 14, wherein said peptide is [D-Leu-4]-OB3.

16. (previosuly presented) The composition of claim 14, wherein said peptide is [D-Pro-5]-OB3.

17. (previosuly presented) A method for treating or preventing a pathophysiology relating to homeostasis of body mass, comprising: administering a therapeutically effective amount of a composition of claim 1 to a subject in need thereof such that said pathophysiology is treated or prevented.

18. (previosuly presented) The method of claim 17, wherein said peptide is [D-Leu-4]-OB3.

19. (previosuly presented) The method of claim 17, wherein said peptide is [D-Pro-5]-OB3.

20. (previosuly presented) The method of claim 17, wherein said pathophysiology is selected from the group consisting of: obesity; hyperglycemia; hyperinsulinemia; hyperphagia; thyroid dysfunction; infertility; Type II diabetes mellitus; and non-insulin dependent diabetes mellitus.

21. (previosuly presented) The method of claim 17, wherein said pathophysiology is selected from the group consisting of anorexia, cancer, AIDS, hemataopoiesis dysfunction, tumor suppression, and other pathophysiologies related to a life-threatening decrease in weight.

22. (previosuly presented) The method of claim 17, wherein said composition is administered by injection into said subject.

23. (previosuly presented) The method of claim 17, wherein said pathophysiology is selected from the group consisting of: increased body fat deposition, hypothermia, impaired thyroid functions, and impaired reproductive functions.

24. (previosuly presented) A method for treating Type II diabetes mellitus, comprising administering a therapeutically effective amount of a polypeptide of claim 1 to a subject in need thereof such that said Type II diabetes is treated.

25. (previosuly presented) The method of claim 20, wherein insulin release is modulated in said subject.

26. (previosuly presented) The method of claim 20, wherein said peptide is [D-Leu-4]-OB3.

27. (previosuly presented) The method of claim 20, wherein said peptide is [D-Pro-5]-OB3.

28. (previosuly presented) An isolated polypeptide comprising [D-Leu-4]-OB3, wherein said polypeptide reduces body weight gain, food intake, water consumption, serum insulin levels, and blood glucose levels following administration in an obese mouse.

29. (previosuly presented) The polypeptide of claim 28, wherein the polypeptide reduces blood glucose levels after only 2 days of administration to the obese mouse.

30. (previosuly presented) The polypeptide of claim 28, wherein said polypeptide has no measurable effect on thermogenics of the obese mouse.

31. (previosuly presented) The polypeptide of claim 28, wherein exposure to said polypeptide for periods of up to one week is non-toxic, and wherein administration of said polypeptide produces no long-term adverse side effects.